

**REMARKS**

In the present Amendment, the specification has been amended to correct typographical errors. Claims 1 and 12 have been amended to recite that the unsaturated hydrocarbon group free of aromatic ring is selected from the group consisting of an acyclic hydrocarbon group containing unsaturated bond and being substituted by alicyclic hydrocarbon group and an alicyclic hydrocarbon group containing unsaturated bond and being optionally substituted by acyclic hydrocarbon group. Section 112 support for the amendment is found, for example, at page 3, lines 12-17 of the specification. No new matter has been added, and entry of the Amendment is respectfully requested.

Claims 1-16 are pending.

In paragraph No. 1 of the Action, the disclosure has been objected to for informalities.

As noted, the specification has been amended to address the Examiner's concern.

Withdrawal of the objection to the specification is requested.

In paragraph No. 5 of the Action, Claims 1-9 and 12-13 have been rejected under 37 C.F.R. § 102(e) as allegedly being anticipated by Uckert et al (US 2004/0185302).

In paragraph No. 24 of the Action, Claims 14-16 have been rejected under 37 C.F.R. § 103(a) as allegedly being unpatentable over Uckert et al in view of Noguchi et al (US 2002/0177687).

Applicant submits that these rejections should be withdrawn because Uckert et al and Noguchi et al do not disclose or render obvious the present invention, either alone or in combination.

As recited in independent claims 1 and 12, a polymer emitting fluorescence of the present invention

- (a) has a polystyrene-reduced weight-average molecular weight of  $10^3$  to  $10^8$  and
- (b) has a repeating unit selected from the group consisting of arylene group, divalent heterocyclic group and divalent aromatic amine group,
- (c) wherein the polymer has an unsaturated hydrocarbon group free of aromatic ring at least at one terminal end of the main chain thereof
- (d) with being directly coupled with any of the repeating units,
- (e) the unsaturated hydrocarbon group free of aromatic ring being selected from the group consisting of an acyclic hydrocarbon group containing unsaturated bond and being substituted by alicyclic hydrocarbon group and an alicyclic hydrocarbon group containing unsaturated bond and being optionally substituted by acyclic hydrocarbon group.

Uckert et al does not explicitly disclose a polymer comprising a terminal group having features (c), (d) and (e) shown above. Therefore, Claims 1-9 and 12-13 are not anticipated by Uckert et al.

Noguchi et al is relied upon as teaching the use of an electroluminescent device in a segment display, a dot matrix display or as a backlight in a liquid crystal display (Claims 18-20). Noguchi et al does not make up for the deficiencies of Uckert et al.

In view of the above, reconsideration and withdrawal of the §102(e) and §103(a) rejections based on Uckert et al (in view of Noguchi et al) are respectfully requested.

In paragraph No. 9 of the Action, Claims 1-3 and 12-13 have been rejected under 37 C.F.R. § 103(a) as allegedly being unpatentable over Miller et al (US 6,107,452).

In paragraph No. 14 of the Action, Claims 4-6 and 9 have been rejected under 37 C.F.R. § 103(a) as allegedly being unpatentable over Miller et al in view of Bandodakar et al (Synthesis, vol. 9, pp. 843-844, 1990).

In paragraph No. 18 of the Action, Claims 7-8 have been rejected under 37 C.F.R. § 103(a) as allegedly being unpatentable over Miller et al and Bandodakar et al, and further in view of Iyer et al (Tetrahedron Letters, vol. 38, No. 49, pp. 8533-8536, 1997).

In paragraph No. 21 of the Action, Claims 14-16 have been rejected under 37 C.F.R. § 103(a) as allegedly being unpatentable over Miller et al in view of Noguchi et al.

In paragraph No. 27 of the Action, Claims 10-11 have been rejected under 37 C.F.R. § 103(a) as allegedly being unpatentable over Miller et al in view of Bozano et al (Journal of Applied Physics, vol. 94, No. 5, pp 3061-3068, 2003).

Applicant submits that the above five rejections should be withdrawn because the cited references do not disclose or render obvious the present invention, either alone or in combination.

Miller et al disclose polymer materials where the terminal of the polymer is functionalized by an unsaturated hydrocarbon group free from an aromatic ring having the formula  $-(CH_2)_m-CH=CH_2$  (m is an integer of 1-12) as illustrated at column 7, lines 27-28 and 46-47.

The object of the invention of Miller et al is to provide a novel method for synthesizing an oligomer that may be crosslinked under mild reaction conditions to prepare an insoluble electoreactive polymer (column 1, lines 56-59).

However, Miller et al is silent on polymer material where the unsaturated hydrocarbon group free from an aromatic ring is directly coupled to the repeating unit (feature (d)) as acknowledged by the Examiner. Further, Miller et al does not teach or suggest a polymer having an unsaturated hydrocarbon group free of aromatic ring selected from the group consisting of an acyclic hydrocarbon group containing unsaturated bond and being substituted by

alicyclic hydrocarbon group and an alicyclic hydrocarbon group containing unsaturated bond and being optionally substituted by acyclic hydrocarbon group (feature (e)) as recited in the present claims.

Applicant notes that these groups of feature (e) essentially contain alicyclic hydrocarbon group.

Miller et al does not teach or suggest features (d) and (e) of the present invention. As disclosed in the specification on page 70, lines 6-7, the polymer of the present invention is resistible to electrolytic oxidation and/or reduction. Miller et al does not teach or suggest such an effect. Therefore, the present invention is not obvious over Miller et al.

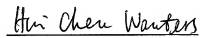
The secondary references cited by the Examiner do not make up for the deficiencies of Miller et al or imply the effect of the present invention as discussed above.

In view of the above, reconsideration and withdrawal of all the §103(a) rejections based on Miller et al and the secondary references are respectfully requested.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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